AMENDMENTS TO THE CLAIMS:

The following listing of claims will replace all prior versions and listings of claims in this application.

1. (Previously presented) A genetically modified cell or non-human organism comprising said cell, wherein the genetic modification comprises the insertion of a reporter molecule-encoding sequence into an allele of the endogenous *Blimp (PRDM-1)* gene thereby creating a modified *Blimp* allele, and wherein expression of a polypeptide comprising the reporter molecule from the modified *Blimp* allele is under the control of endogenous *Blimp* regulatory elements.

2. (Previously presented) The cell or organism of claim 1, wherein the modified *Blimp* allele encodes an mRNA transcript comprising a Blimp coding sequence and a reporter molecule coding sequence.

3. (Previously presented) The cell or organism of claim 1, wherein the reporter molecule coding sequence is inserted within an intron of a *Blimp* allele.

4. (Previously presented) The cell or non-human organism of claim 1, wherein the modified *Blimp* allele is present in homozygous form.

5. (Previously presented) The cell or non-human organism of claim 1, wherein the modified *Blimp* allele is present in heterozygous form.

6-7. (Canceled)

8. (Original) The cell or non-human organism of claim 1, comprising cells or genetic material derived from any organism such as man, non-human primates, livestock, companion or laboratory test organisms, reptilian or amphibian species.

9. (Original) The cell or organism of claim 8, derived from a laboratory test animal such as

a rodent (including mice), guinea pig, pig, duck, rabbit or sheep.

10. (Original) The cell or organism of any one of claims 1 to 5, wherein the cell is a haematopoietic or embryonic cell.

11. (Original) The cell or organism of claim 10, wherein the cell is a haematopoietic cell.

12. (Original) The cell or organism of claim 11, wherein the cell is a lymphocytic cell.

13. (Original) The cell or organism of claim 12, wherein the cell is a cell of the lymphocyte lineage selected from a B-cell and a T-cell.

14. (Original) The cell or organism of claim 13, wherein the B-cells are ASC.

15. (Original) The cell of claim 14, which is a substantially purified population of ASC.

16. (Original) The cell or organism of claim 13, wherein the T-cells are selected from $CD4^+$ T-cells and $CD8^+$ T-cells.

17. (Previously presented) The cell or organism of any one of claims 1 to 5, wherein the detection of the reporter molecule is indicative of a cellular phenotype and/or commitment of a cell to terminally differentiate.

18. (Previously presented) The cell or non-human organism of any one of claims 1-5, wherein said cell is provided in the form of gametes or ES cells, and the organism is provided in the form of embryos.

19. (Previously presented) The cell or organism of any one of claims 1 to 3, wherein the reporter molecule is a fluorescent or light emitting reporter molecule.

20. (Currently amended) A method for phenotyping and/or monitoring a cell of the

haematopoietic system comprising ~~screening~~monitoring a genetically modified haematopoietic cell or non-human animal comprising said cell, wherein the genetic modification comprises the insertion of a reporter molecule-encoding sequence into an allele of the endogenous *Blimp (PRDM-1)* gene thereby creating a modified *Blimp* allele, and expression of a polypeptide comprising the reporter molecule from the modified *Blimp* allele is under the control of endogenous *Blimp* regulatory elements, ~~and wherein detection of reporter activity is indicative of~~ and determining a cellular phenotype and/or commitment of the cell to terminally differentiate based on detecting the reporter activity.

21. (Original) The method of claim 20, wherein the haematopoietic cell is a cell selected from B-cells, T-cells, dendritic cells, macrophages, natural killer cells, granulocytes, erythrocytes, eosinophils, megakaryocytes, bone marrow, splenic, dermal, or stromal cells and their precursors and derivatives.

22. (Currently amended) The method of claim 20, wherein ~~phenotyping and/or monitoring of cells~~ detecting the reporter activity is achieved by cytometric analysis of a fluorescent or light emitting reporter molecule.

23. (Original) The method of claim 20, further comprising isolating or selecting cells which exhibit reporter activity or changes in reporter activity or level from among cells which do not exhibit reporter activity.

24. (Original) The method of claim 23, wherein the isolation of reporter-active cells is by flow cytometry, laser scanning cytometry, chromatography and/or other equivalent procedure.

25. (Original) The method of claim 23, further comprising selecting reporter-active cells using further selection markers.

26. (Original) The method of any one of claims 20 to 25, wherein the cells are ASC identified or isolated in a population of cells of a B-cell lineage.

27. (Original) The method of any one of claims 20 to 25, wherein the cells are activated/terminally differentiated T-cells identified or isolated in a mixed population of T-cells.

28. (Withdrawn) A method for testing the antigenicity or immunogenicity of a vaccine, the method comprising;

(i) administering the vaccine to a genetically modified haematopoietic cell or non-human animal comprising such cells wherein the cell or organism comprises a modified *Blimp-1* gene which encodes a Blimp polypeptide which when expressed produces Blimp or a part or fragment or functional form thereof co-expressed with a reporter molecule; and

(ii) testing the cell or organism for the reporter molecule the presence of which is indicative of the ability of the vaccine to induce terminal differentiation in haematopoietic cells.

29. (Withdrawn) The method of claim 27, wherein the presence of reporter activity is indicative of the ability of the vaccine to promote terminal differentiation in T-cells and/or B-cells.

30. (Previously presented) A method for *in vitro* or *in vivo* screening for agonists or antagonists of terminal differentiation in haematopoietic cells comprising exposing one or more agents to a genetically modified cell or non-human animal comprising said cell, wherein the genetic modification comprises the insertion of a reporter molecule-encoding sequence into an allele of the endogenous *Blimp (PRDM-1)* gene thereby creating a modified *Blimp* allele, and expression of a polypeptide comprising the reporter molecule from the modified *Blimp* allele is under the control of endogenous *Blimp* regulatory elements; and testing the cell or organism for the presence or a change in the level of the reporter molecule the presence of which is indicative of the ability of the one or more agents to act as agonists or antagonists of terminal differentiation.

31. (Previously presented) The method of claim 20, 28 or 30, wherein said modified *Blimp*

allele encodes an mRNA transcript comprising a Blimp coding sequence and a reporter molecule coding sequence.

32. (Original) The method of claim 31, wherein the reporter molecule coding sequence is inserted within an intron of a *Blimp* allele.

33. (Previously presented) The cell or non-human organism of claim 31, wherein the modified *Blimp* allele is present in homozygous form.

34. (Previously presented) The method of claim 31, wherein the modified *Blimp* allele is present in heterozygous form.

35-36. (Canceled)

37. (Currently amended) The method of claim 31 wherein the cells, the modified Blimp allele or the reporter gene [[is]]are derived from any organism such as man, non-human primates, livestock, companion or laboratory test organisms, reptilian or amphibian species.

38. (Original) The method of claim 37, wherein the laboratory test organism is selected from a rodent (including mice), guinea pig, pig, duck, rabbit and sheep.

39. (Original) The method of claim 31, wherein the cell is a cancerous or non-cancerous haematopoietic or embryonic cell.

40. (Original) The method of claim 39, wherein the cell is a lymphocytic cell.

41. (Original) The method of claim 40, wherein the lymphocytic is selected from a B-cell and a T-cell.

42. (Original) The method of claim 41, wherein the B-cells are ASC.

43. (Original) The method of claim 41, wherein the T-cells are selected from $CD4^+$ T-cells and $CD8^+$ T-cells.

44. (Previously presented) A targeting vector comprising a modified *Blimp (PRDM-1)* gene characterized by the insertion of a reporter molecule-encoding sequence into a native *Blimp (PRDM-1)* gene, wherein expression of a polypeptide comprising the reporter molecule from the modified *Blimp* gene is under the control of endogenous *Blimp* regulatory elements.

45. (Previously presented) The targeting vector of claim 44, wherein the modified *Blimp* gene encodes an mRNA transcript comprising a Blimp coding sequence and a reporter molecule coding sequence.

46. (Original) The targeting vector of claim 45, wherein the reporter molecule coding sequence is inserted within an intron of a *Blimp* allele.

47. (Original) The targeting vector of claim 44, wherein the reporter molecule is a GFP.